CLAIMS

1. A sulfur-containing compound removing apparatus for removing a sulfur-containing compound in a fuel by concentration, which is arranged between a fuel tank and an injector of an engine, or arranged in a gas station fuel tank or a tanker truck.

2. A sulfur-containing compound removing apparatus, which is arranged between a fuel tank and an injector of an engine, or arranged in a tank of a gas station fuel tank or a tanker truck, the apparatus comprising:

(1) a sulfur-containing compound adsorbent for adsorbing the sulfur-containing compound in a fuel;

(2) a sulfur-containing compound oxidizing agent or oxidation catalyst for oxidizing the sulfur-containing compound to form a sulfur-containing oxide, which is immobilized in the sulfur-containing compound adsorbent (1) or coexists with the sulfur-containing compound; and

(3) (3-a) a sulfur-containing adsorbent for adsorbing the sulfur-containing oxide, which coexists with the sulfur-containing compound adsorbent (1) and the sulfur-containing compound oxidation catalyst (2) or is arranged at a lower stream thereof; and/or

(3-b) a sulfur-containing oxide salt removing means for removing the sulfur-containing oxide in the form of a salt thereof.

3. The apparatus according to claim 2, wherein the sulfur-containing oxide salt removing means (3-b) is a filter or porous material which supports an oxide or a salt of an alkali metal or an alkali earth metal.

4. The apparatus according to claim 3, wherein the sulfur-containing oxide salt removing means (3-b) is an insoluble sulfate salt filtering-off filter.

5. An sulfur-containing compound removing apparatus, which is arranged between a fuel tank and an injector of an engine or arranged in a gas station fuel

tank or a tanker truck, the apparatus comprising:

(1) a sulfur-containing compound adsorbent for adsorbing the sulfur-containing compound in a fuel;

(2) a sulfur-containing compound oxidizing agent or oxidation catalyst for oxidizing the sulfur-containing compound to form a sulfur-containing oxide, which is immobilized in the sulfur-containing compound adsorbent (1) or coexists with the sulfur-containing compound;

(3) a microorganism-immobilized carrier in which a microorganism capable of oxidizing the sulfur-containing oxide into a sulfate salt or a sulfite salt has been immobilized, which coexists with the sulfur-containing compound adsorbent (1) and the sulfur-containing compound oxidation catalyst (2) or is arranged at a lower stream thereof; and

(4) (4-a) a sulfur-containing adsorbent for adsorbing the sulfur-containing oxide, which coexists with the microorganism-immobilized carrier (3) or is arranged at a lower stream thereof; and/or

(4-b) a sulfur-containing oxide salt removing means for removing the sulfur-containing oxide, the sulfate salt or the sulfite salt in the form of an insoluble salt thereof.

6. The apparatus according to claim 5, wherein the sulfur-containing oxide salt removing means (4-b) is a filter or porous material which supports an oxide or a salt of an alkali metal or an alkali earth metal.

7. The apparatus according to claim 5, wherein the sulfur-containing oxide salt removing means (4-b) is an insoluble sulfate salt filtering-off filter.